NOvA Experiment Status

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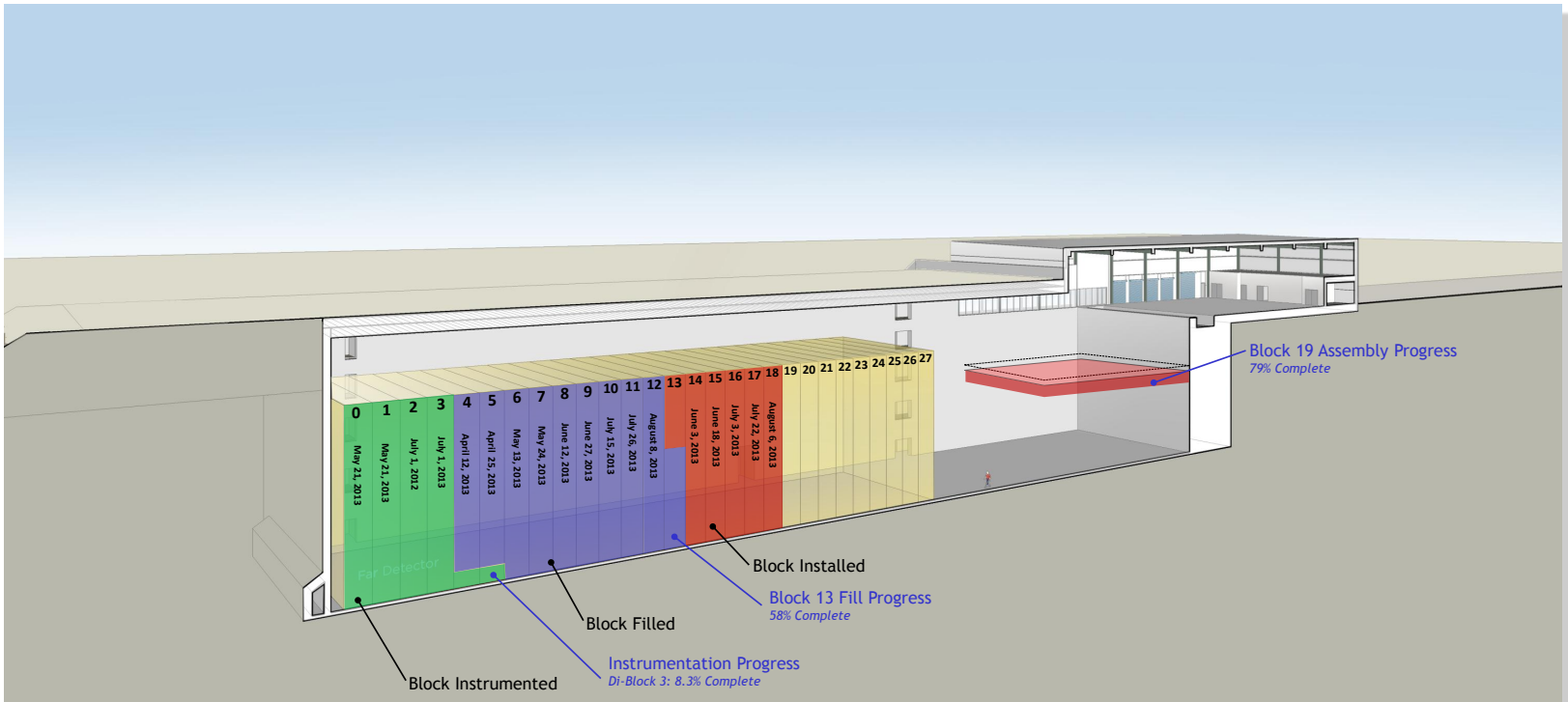
All Experimenter's Meeting, August 19, 2013

Far Detector Progress

The Intensity Frontier

NOvA Far Detector Assembly Progress

Status Date: 19AUG13



14 kilotons = 28 NOvA Blocks

19 blocks of PVC modules are assembled and installed in place

13.58 blocks are filled with liquid scintillator

4.17 blocks are outfitted with electronics

S. Dixon

Near Detector Progress

- Muon Catcher section (downstream) in place
  - Recycled Near Detector prototype (NDOS) sections
  - 10 layers of steel plates
  - 1 layer PVC modules each side of plate, 2 module X 3 module area (10 ft X 14 ft)
  - 4 layer “mini-block” at extreme downstream end
- First block assembled at CDF, transported to MSB
  - 24 layers, 3 module X 3 module area per layer (14 ft X 14 ft)

ND Muon Catcher in place

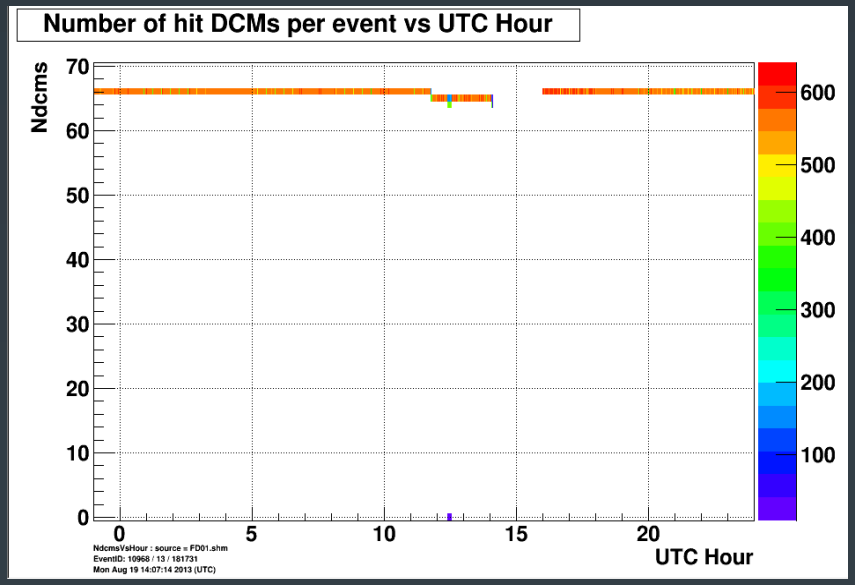
First ND Block transported

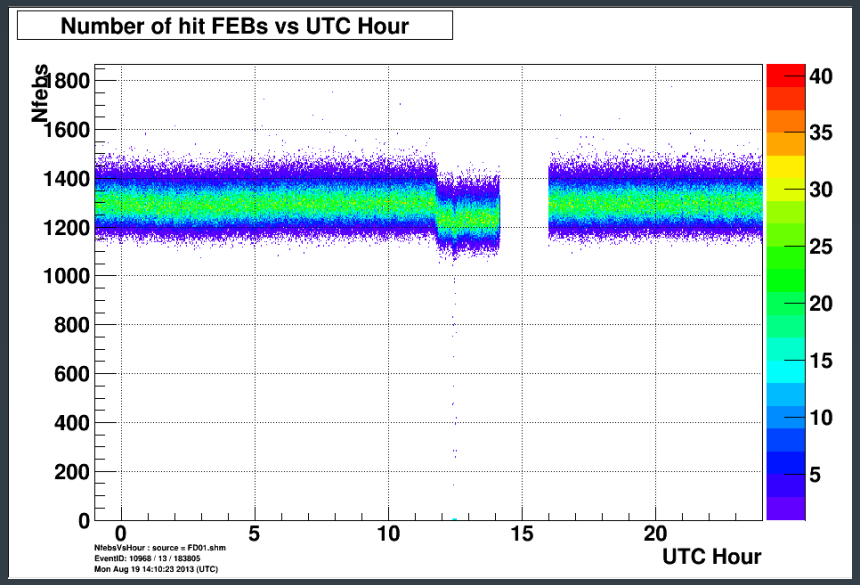
Leaving CDF Hall (assembly area)

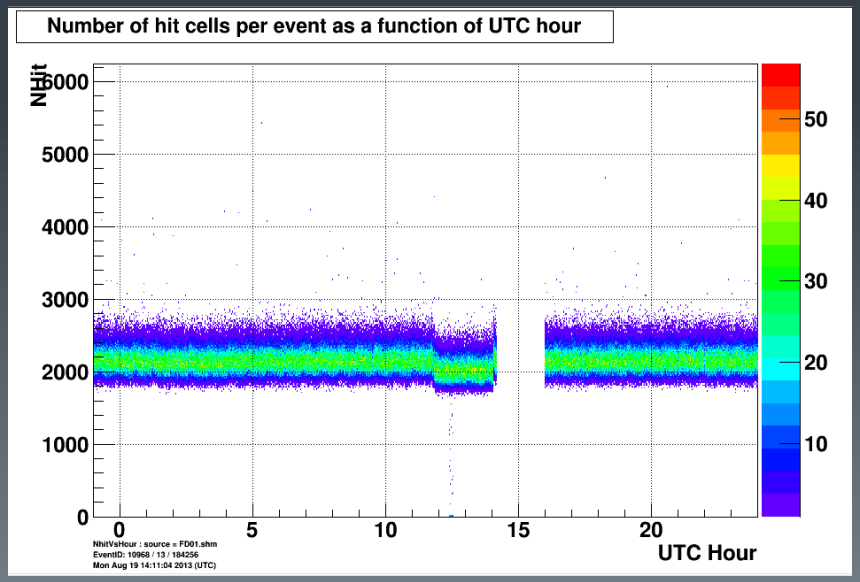
Arriving at Minos SB

First Block In Minos SB

FarDet Commissioning Effort

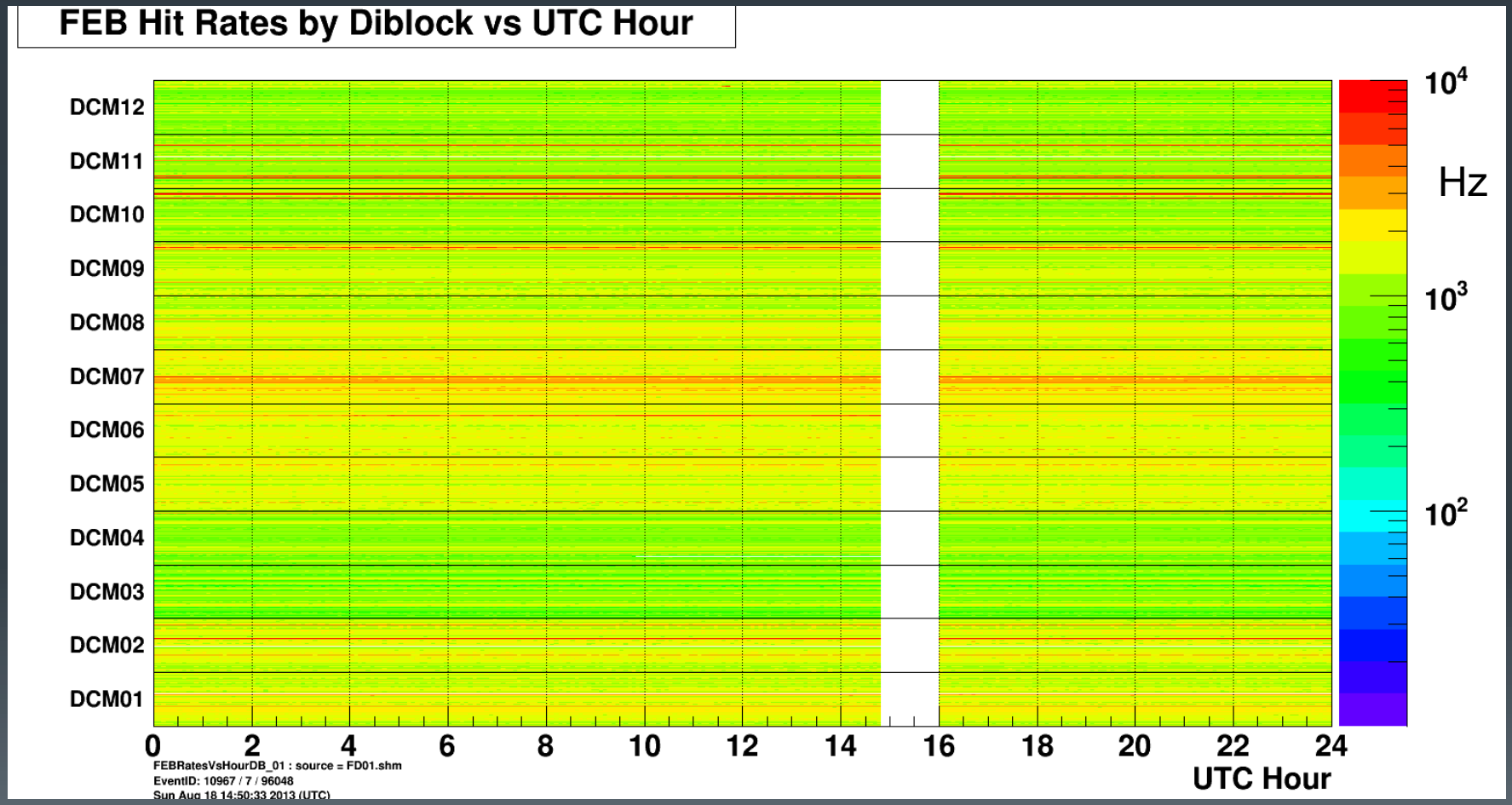






- Long, overnight and weekend runs
- Active hardware components – cells (APD pixels), Front End Boards (FEBs), and Data Concentrator Modules (DCMs)

Hit Rates – Diblock 01



Each line represents a Front End Board – stable running observed for long periods

Summary

- Currently taking data with 2 kilotons of the Far Detector with full electronics (warm APDs)
  - > 1 million gallons of liquid scintillator in the detector
  - Preparing to start cold APD operations in ~1 week
- Running day and swing shifts, 7 days per week – plan to start 24 hour coverage next week – when we begin cooling of APDs on Far Detector
- Online tools are being used to monitor FarDet commissioning progress
- Preparing for NUMI beam, e.g., development of trigger modes for more efficient capture of data and exotic “events”.
- Starting to run shifts in mode for beam operations – Beam monitoring on screen, Beam checklist on shift, shifter check-in with MCR (today got noted as Minerva in MCR logbook!)